Application No: 09/773,156
Attorney's Docket No: PHNL 000031

CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1.   (Currently amended) A video encoder for encoding images in a first resolution mode with reference to a reference image having said first resolution, the encoder comprising:

a memory having the capacity for storing said reference image with said first resolution; and

control means:

for selectably encoding said images in a second, lower resolution mode with reference to two reference images having said second resolution, and

for also storing said two reference images with the second resolution in said memory.

2.   (Previously presented) The video encoder as claimed in claim 1, further comprising:

a motion estimation circuit applying a predetermined search strategy in the first resolution mode to search motion vectors representing motion between an input image and the reference image, said motion estimation circuit being arranged to apply said search strategy in the second resolution mode to both reference images.

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3.   (Previously presented) The video encoder as claimed in claim 2, wherein selected images are encoded in the second resolution mode with respect to one of said reference images, the motion estimation circuit being arranged to apply the search strategy in a first pass to search motion vectors with a first precision, and to apply said search strategy in a second pass to refine the precision of the motion vectors found in the first pass.

4.   (Previously presented) The video encoder as claimed in claim 2, further arranged to selectably encode images in a third, yet lower resolution mode with reference to two reference images having said third resolution, said motion estimation circuit being arranged to apply said search strategy in the third resolution mode to both reference images, and to apply the search strategy for each reference image in a first pass to search motion vectors with a first precision, and to apply said search strategy in a second pass to refine the precision of the motion vectors found in the first pass.

5.   (Previously presented) The video encoder as claimed in claim 1, wherein said reference image having the first resolution is a previous image of a sequence of images, one of the reference images having the second resolution is a previous image of said sequence, and the other one of the reference images having the second resolution is a subsequent image of said sequence.

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6.   (Currently amended) A method of encoding images in a first resolution mode with reference

to a reference image having said first resolution, comprising the steps of:

storing said reference image with said first resolution in a memory having the capacity

therefore;

selectably encoding said images in a second, lower resolution mode with reference to two

reference images having said second resolution; and

storing said two reference images with the second resolution in said memory.

7.   (Previously presented) The method as claimed in claim 6, further comprising the step of:

searching motion vectors representing motion between an input image and the reference

image in the first resolution mode, said searching being applied to both reference images in the

second resolution mode.

8.   (Previously presented) The method as claimed in claim 7, wherein selected images are

encoded in the second resolution mode with respect to one of said reference images, the searching

step being applied in a first pass to search motion vectors with a first precision, and in a second pass

. to refine the precision of the motion vectors found in the first pass.

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9.   (Previously presented) The method as claimed in claim 7, further arranged to selectably encode images in a third, yet lower resolution mode with reference to two reference images having said third resolution, said searching step being applied in the third resolution mode to both reference images, and in a first pass to search motion vectors with a first precision, and in a second pass to refine the precision of the motion vectors found in the first pass.

10.   (Previously presented) The A method as claimed in claim 6, wherein said reference image having the first resolution is a previous image of a sequence of images, one of the reference images having the second resolution is a previous image of said sequence, and the other one of the reference images having the second resolution is a subsequent image of said sequence.

11.   (Currently amended) A video decoder for decoding images in a first resolution mode with reference to a reference image having said first resolution, the decoder comprising :

a memory ~~having the capacity~~ for storing said reference image with said first resolution; and control means:

for decoding said images in a second, lower resolution mode with reference to two reference images having said second resolution, and

for <u>also</u> storing said two reference images with the second resolution in said memory.

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12.   (Currently amended) A method of decoding images in a first resolution mode with reference to a reference image having said first resolution, comprising the steps of:

storing said reference image with said first resolution in a memory ~~having the capacity therefore~~;

decoding said images in a second, lower resolution mode with reference to two reference images having said second resolution; and

storing said two reference images with the second resolution in said memory.

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